IN THE CLAIMS

Please amend the claims as follows:

1. (Cancelled)

2. (Previously Presented) An optical scanning device for scanning optical record carriers with radiation of a selected wavelength, the device including an objective lens, having an axial direction and a radial direction, the objective lens having a phase structure which is non-periodic with respect to the radial direction, the non-periodic phase structure being arranged to compensate for comatic aberrations generated in the objective lens when an optical record carrier is read in a direction which is non-axial with respect to said objective lens, wherein said non-periodic phase structure compensates at least 50% of the root mean square (rms) comatic wavefront error at a certain field angle with respect to the axial direction and caused by the objective.

3. (Previously Presented) The optical scanning device of claim 2, wherein said non-periodic phase structure compensates at least 70% of the root mean square (rms) comatic wavefront error at said certain field angle.

4. (Previously Presented) An optical scanning device for scanning optical record carriers with radiation of a selected wavelength, the device including an objective lens, having an axial direction and a radial direction, the objective lens

having a phase structure which is non-periodic with respect to the radial direction, the non-periodic phase structure being arranged to compensate for comatic aberrations generated in the objective lens when an optical record carrier is read in a direction which is non-axial with respect to said objective lens, wherein the rms wavefront error caused by the comatic aberration generated by the objective lens at a maximum required field angle with respect to the axial direction, as compensated by the non-periodic phase structure, is less than 40ml.

5. (Previously Presented) The optical scanning device of claim 4, wherein the rms wavefront error is less than 20mλ.

6. (Previously Presented) An optical scanning device for scanning optical record carriers with radiation of a selected wavelength, the device including an objective lens, having an axial direction and a radial direction, the objective lens having a phase structure which is non-periodic with respect to the radial direction, the non-periodic phase structure being arranged to compensate for comatic aberrations generated in the objective lens when an optical record carrier is read in a direction which is non-axial with respect to said objective lens, wherein said non-periodic phase structure includes a plurality of annular zones, each of said zones comprising a step of a substantially constant height with respect to a rotationally symmetrical aspheric shape generally followed by said objective lens, said step having a surface located at the substantially constant height such that all points on said step surface are located at about a constant distance from said aspheric shape.

7. (Previously Presented) The optical scanning device of claim 6, wherein said steps generate a relative phase difference of approximately a multiple of 2π for radiation of said selected wavelength when an optical record carrier is read in said axial direction.

8. (Previously Presented) The optical scanning device of claim 6, wherein the radial widths of said zones are selected in dependence on the comatic aberration to be compensated for.

9. (Previously Presented) The optical scanning device of claim 8, wherein said zones comprise a zone (a) with a nonzero height, measured in relation to said aspheric shape, located in the region in which the normalized pupil coordinate ρ ranges from 0.45 to 0.84.

10. (Previously Presented) The optical scanning device of claim 9, wherein said zone (a) ends prior to a normalized pupil coordinate ρ of 0.85.

11. (Previously Presented) The optical scanning device of claim 8, wherein said zones comprise a zone (b) with a nonzero height, measured in relation to said aspheric shape, located in the region in which the normalized pupil coordinate r ranges from 0.9 to 1.00.

12. (Previously Presented) The optical scanning device of claim 11, wherein said zones comprise a plurality of zones with a

nonzero height, measured in relation to said aspheric shape, located in the region in which the normalized pupil coordinate ρ ranges from 0.9 to 1.00.

13. (Previously Presented) The optical scanning device of claim 6, wherein the heights of said zones are selected substantially optimally in relation to the comatic aberration to be compensated for.

14. (Previously Presented) The optical scanning device of claim 7, wherein the number of said zones is greater than four.

15. (Previously Presented) The optical scanning device of claim 8, wherein the number of said zones is less than ten.

16. (Previously Presented) The optical scanning device of claim 9, wherein said non-periodic phase structure is formed on the surface of said objective lens.

17. (Previously Presented) An optical system including an optical element having optical power and an axial direction and a radial direction, the optical element having a phase structure which is non-periodic with respect to the radial direction, the non-periodic phase structure being arranged to compensate for comatic aberrations generated by the optical element when an optical beam traverses the optical system in a direction which is non-axial with respect to said element, the non-periodic phase structure having a first step, the first step having a surface located opposite to a surface shape followed by the

optical element such that all points on the surface of the first step are located at about a constant distance from said surface shape.

18. (Currently Amended) The optical system of claim ~~18~~ 17, wherein the surface of the first step is oriented substantially parallel to said surface portion.

19. (Currently Amended) The optical ~~scanning~~ system device of claim ~~18~~ 17, wherein the non-periodic phase structure comprises a plurality of steps that includes the first step, and wherein said steps generate a relative phase difference of approximately a multiple of 2π when said optical beam is directed in said axial direction.

20. (Currently Amended) The optical ~~scanning~~ system device of claim ~~18~~ 17, wherein said non-periodic phase structure compensates at least 50% of the root mean square (rms) comatic wavefront error at a certain field angle with respect to the axial direction and caused by the optical element.

21. (Currently Amended) The optical ~~scanning~~ system device of claim ~~18~~ 17, wherein the rms wavefront error caused by the comatic aberration generated by the optical element at a maximum required field angle with respect to the axial direction, as compensated by the non-periodic phase structure, is less than 40ml.

22. (Currently Amended) The optical ~~scanning device~~ system of claim ~~18~~ 17, wherein said surface shape comprises an aspheric shape.

23. (Currently Amended) The optical ~~system~~ scanning device of claim 6, wherein the step surface is oriented substantially parallel to said aspheric shape.